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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,581	12/29/2003	Robert E. Higashi	H0005015-1100.1237101	8573
90545	7590	06/21/2011	EXAMINER	
HONEYWELL/STW Patent Services 101 Columbia Road P.O. Box 2245 Morristown, NJ 07962-2245			ECHELMeyer, ALIX ELIZABETH	
			ART UNIT	PAPER NUMBER
			1729	
			NOTIFICATION DATE	DELIVERY MODE
			06/21/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/750,581	Applicant(s) HIGASHI ET AL.	
	Examiner Alix Elizabeth Echelmeyer	Art Unit 1729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,31-34,36,37,39-45,47-56 and 58-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 47-56 and 58-70 is/are allowed.
- 6) ☒ Claim(s) 29,31-34,36 and 41-45 is/are rejected.
- 7) ☒ Claim(s) 37,39 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29, 31-34, 36 and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfield et al. (US 2003/0091878) in view of Dietz (US 3,650,840).

Rosenfield et al. teach a fuel cell wherein first (140) and second (142) electrode layers, each containing apertures (148, 150) are provided (Figure 1). Rosenfield et al. teach conductive layers (144, 146) plated-through the printed circuit board ([0127]).

A membrane (156) is placed between the electrode apertures (Figure 1).

With regard to claim 31, the membrane is a proton exchange membrane ([0015]).

As for claim 32, Rosenfield et al. teach a platinum catalyst ([0022]).

As for claims 33, 34, 36 and 41-43, since the entire electrical contact of the electrodes (144, 146) are conductive, both surfaces of the electrodes are in electrical contact.

With regard to claim 44 and 45, it is seen in figure 1 that most of the surface of the electrodes is non-conductive PCB, with only the through-plated contacts being conductive.

With further regard to claim 29, Rosenfield et al. fail to teach a conductive adhesive.

Dietz teaches the use of a conductive adhesive applied to an electrode for assembly of a fuel cell (abstract).

It would have been obvious to the skilled artisan to use a conductive adhesive such as taught by Dietz in the fuel cell of Rosenfield et al. to attach the various components of the fuel cell in order to ensure that the components remain in position for proper function of the fuel cell.

Allowable Subject Matter

3. Claims 47-56 and 58-70 are allowed.
4. Claims 37, 39, and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is an examiner's statement of reasons for allowance and allowable subject matter: the prior art does not teach or fairly suggest electrode wherein the surfaces are conductive but the portion between the surfaces is not conductive.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is (571)272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ula Ruddock can be reached on 571-272-1481. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ULA C. RUDDOCK/
Supervisory Patent Examiner
Art Unit 1729

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1729

aee